

WHAT IS CLAIMED IS:

1. A camera lens module for a portable wireless terminal comprising:
a camera unit consisting of a camera lens and a flexible printed circuit which
5 provides an electrical connection for the camera lens;
a front cover comprising an opening portion for exposure of the camera lens;
a housing, one end of which is connected with the front cover and which is
provided with a partition in a predetermined internal position, wherein the partition
exposes a lens containing recess of the front cover and a through-hole is formed in
10 the partition to provide a passage for allowing the flexible printed circuit of the
camera unit to be passed;
a rear cover comprising a first flange which is connected to an other end of
the housing and closes the through-hole of the housing, and a male hinge member
which extends from the first flange;
15 a female hinge member comprising a cylinder which receives the male hinge
member of the rear cover, and a second flange extended from one side of the
cylinder; and
an elastic means which is mounted between the first flange and the second
flange for providing elastic force in a longitudinal direction of the female hinge
20 member.
2. The camera lens module in accordance with claim 1, the front cover
further comprising one or more ribs which form the lens containing recess within
which the camera lens is contained.

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3. The camera lens module in accordance with claim 1, wherein a slit is formed in the longitudinal direction of the male hinge member from the first flange, so that the slit provides a passage for the flexible printed circuit to be laterally extended.

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4. The camera lens module in accordance with claim 3, wherein the female hinge member is connected to the first flange of the rear cover, wherein a slit which corresponds to the slit of the rear cover is formed in the female hinge member to be extended in the longitudinal direction of the female hinge member from the
10 second flange.

5. The camera lens module in accordance with claim 1, wherein a tip end of the male hinge member can protrude out of the cylinder of the female hinge member.

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6. The camera lens module in accordance with claim 5, wherein the tip end of the male hinge member of the rear cover protruding out of the cylinder of the female hinge member has a diameter which is smaller than that of the male hinge member between the first flange and the tip end of the male hinge member, and the
20 tip end of the male hinge member is provided with a connecting groove on a circumferential surface thereof, into which an E-ring is fitted, thereby providing a rotatable connecting means between the camera lens module and the portable wireless terminal.

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7. The camera lens module in accordance with claim 2, wherein the ribs of the front cover form the lens containing recess for supporting bottom and opposite lateral sides of the camera lens, wherein the opening portion for exposure of the camera lens comprises a lens cover extended to cover the camera lens and an opening formed in the lens cover; and wherein the opening is closed by a transparent window for protecting the camera lens.

8. The camera lens module in accordance with claim 1, wherein the housing further includes a circumferential surface formed with a recess, within which the exposure opening portion of the front cover is positioned.

9. The camera lens module in accordance with claim 2, further comprising:

one or more screw holes formed in the longitudinal direction in the ribs of the front cover;

one or more connecting holes formed in the partition of the housing to correspond to the screw holes;

one or more through-holes formed in the first flange to correspond to the screw holes and the connecting holes,

wherein the front cover, the housing and the rear cover are connected with each other by fitting one or more screws from the through-holes of the first flange through the connecting holes and into the screw holes.

10. The camera lens module in accordance with claim 1, wherein one or more flat surfaces are formed on a circumferential surface of the male hinge member of the rear cover, and an internal surface of the cylinder of the female hinge member is formed to be complementary to the flat surfaces of the male hinge member.

11. The camera lens module in accordance with claim 1, wherein the first flange of the rear cover is provided with a projection protruding in the longitudinal direction and the second flange of the female hinge member is provided with a groove corresponding to the projection of the first flange, so that relative rotation between the rear cover and the female hinge member is restrained.

12. The camera lens module in accordance with claim 1, wherein the elastic means is a leaf spring formed in a shape of crimped washer, which is connected to the male hinge member of the rear cover.

13. The camera lens module in accordance with claim 1, wherein the elastic means is formed from a rubber material and adhered on the first flange to surround the circumferential surface of the male hinge member of the rear cover.

14. A portable wireless terminal comprising a main body and a folder rotatably hinged to the main body, wherein the portable wireless terminal further comprises a camera lens module which is rotatably connected to a module receiving portion formed in a side of a top end of the main body, the camera lens module comprising:

a lens assembly comprising, in combination, a front cover within which a camera lens is contained, and a housing, one end of which is connected to the front cover and through which a flexible printed circuit of the said camera lens is drawn out;

a rear cover comprising a first flange which is connected to an other end of the housing, and a male hinge member which extends from the first flange and provides a connecting means for allowing the camera module to be rotatably

connected to the module receiving portion in the main body;

a female hinge member comprising a cylinder which receives the male hinge member of the rear cover, and a second flange extended from one end of the cylinder and connected to the first flange of the rear cover; and

5 a hinge assembly combined with an elastic means which is mounted between the first flange and the second flange for providing elastic force in the longitudinal direction of the female hinge member.

15. The portable wireless terminal in accordance with claim 14, wherein
10 a tip end of the male hinge member can protrude out of the cylinder.

16. The portable wireless terminal in accordance with claim 15, wherein the module receiving portion has a closed end, through which a through-hole is formed to allow the tip end of the male hinge member of the rear cover to protrude
15 outward, wherein the tip end of the male hinge member is formed with a groove on a circumferential surface thereof for fitting an E-ring therein, and wherein the camera lens module is connected to the module receiving portion by inserting the tip end of the male hinge member through the through-hole of the module receiving portion and then fitting the E-ring into the groove.

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17. The portable wireless terminal in accordance with claim 14, wherein the module receiving portion comprises:

a lens receiving portion formed in a curved shape in a side of the top end of the main body to support a side of a circumferential surface of the housing of the
25 lens assembly; and

a cylindrical hinge receiving portion which extends from an end of the lens receiving portion and receives the hinge assembly, wherein an outer circumferential

surface of the cylindrical hinge receiving portion is aligned with the housing positioned in the lens receiving portion.

18. The portable wireless terminal in accordance with claim 16, further
5 comprising:

a projection formed on a circumferential surface of the tip end of the male hinge member; and

a stopper protruding inward from an inner surface of the through-hole of the module receiving portion, thereby limiting a rotating range of the projection of the
10 male hinge member.

19. The portable wireless terminal in accordance with claim 14, wherein the hinge assembly is formed with a slit for providing a passage, through which the flexible printed circuit extended from the lens assembly can be laterally drawn out.
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20. The portable wireless terminal in accordance with claim 14, wherein a tip end of the female hinge member is provided with at least two connecting projections, wherein a rotating frictional piece, which has a frictional projection formed on a rib extended outwardly, is provided with connecting holes which
20 correspond to the connecting projections of the female hinge member and thus fixedly connect the frictional projection to the tip end of the female hinge member, and wherein an internal wall of a closed end of the module receiving portion is formed with a plurality of grooves along a rotational track of the frictional projection, wherein the plurality of grooves are to be engaged with the frictional
25 projection.

21. A camera lens module for a portable wireless terminal comprising:

a housing containing a camera lens, which is provided with a partition in a predetermined internal position, a through-hole formed in the partition, and an opening portion for exposure of the camera lens;

5 a front cover coupled at one end of the housing;

a rear cover comprising a first flange, which is connected to an other end of the housing and closes the through-hole of the housing, and a male hinge member which extends from the first flange for rotatable connection of the camera lens module to the portable wireless terminal.

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22. The camera lens module in accordance with claim 21, further comprising:

a female hinge member comprising a cylinder which receives the male hinge member of the rear cover, and a second flange extended from one end of the

15 cylinder and connected to the first flange of the rear cover.

23. The camera lens module in accordance with claim 21, wherein the front cover is provided with one or more ribs which form a lens containing recess within which the camera lens is contained.

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